

INTERVIEW SUMMARY

On Wednesday, January 6, 2010, the Examiner and Applicants' representative met for an interview to discuss this application. Topics of discussion included claims 32 and 38, U.S. Patent 5,852,434 to Sekendur ("*Sekendur*"), U.S. Patent No. 7,098,894 to Yang et al. ("*Yang*"), and WIPO Publication No. WO 03/001358 to Fermgård et al. ("*Fermgård*"). The Applicants would like to thank the Examiner for his hospitality and courtesy during the interview and for his indication that the discussed amendments to claim 38 appear to overcome the *Sekendur*, *Yang*, and *Fermgård* references.

REMARKS

Applicants hereby amend claims 38 and 43, cancel claims 29, 31-33, 51 and 52 without prejudice or disclaimer, and add new claims 55-79. Support for the new and amended claims can be found, for example, in the original claims, paragraphs [0152], [0155], [0159], and [0161] of the specification, and Figure 13. Claims 34-37 are withdrawn and claims 1-28, 30, 39-41, 49, and 50 were previously canceled. Claims 38, 42-48, and 53-79 remain pending and under examination in the application with claims 38, 56, and 68 being in independent form.

In a Final Office Action mailed October 27, 2009,¹ the Examiner took the following actions:

objected to claim 43 due to informalities;

rejected claims 29, 31-33, 51 and 52 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,852,434 to Sekendur ("*Sekendur*") in view of U.S. Patent No. 7,098,894 to Yang et al. ("*Yang*") and further in view of WIPO Publication No. WO 03/001358 to Fermgård et al. ("*Fermgård*"); and

rejected claims 38, 42-48, 53 and 54 under 35 U.S.C. § 103(a) as being unpatentable over *Sekendur* in view of *Fermgård*.

Objection to Claim 43

In the Office Action, the Examiner objected to claim 43 as "repeat[ing] a limitation already in its parent claim." Office Action at 2. Applicants have amended claim 43 to

¹ The Office Action may contain statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

remove the objected-to limitation. Thus, Applicants request that the Examiner withdraw the objection to claim 43.

§ 103 Rejection of Claims 29, 31-33, 51 and 52

The Office Action rejects claims 29, 31-33, 51, and 52 under 35 U.S.C. § 103(a) as unpatentable over *Sekendur* in view of *Yang* and *Fermgård*. Applicants have canceled claims 29, 31-33, 51, and 52, thereby rendering this rejection moot.

§ 103 Rejection of Claims 38, 42-48, 53 and 54

The Office Action rejects claims 38, 42-48, 53, and 54 under 35 U.S.C. § 103(a) as unpatentable over *Sekendur* in view of *Fermgård*. Applicants respectfully traverse this rejection as a *prima facie* case of obviousness has not been established with respect to the foregoing claims, as amended.

As discussed in the January 6, 2010 interview, the combination of *Sekendur* and *Fermgård* does not teach or suggest the combination recited in Applicants' independent claim 38. Specifically, as discussed during the interview, none of the references of record teaches or suggests a combination including:

a carrier having a receiver for receiving [a] writing implement,

a printed circuit board mounted on the carrier, the printed circuit board having at least one hole,

a two-dimensional radiation sensor surface-mounted on the printed circuit board, the sensor positioned on the printed circuit board with respect to the at least one hole, and

an imaging unit designed to control a spatial origin of radiation reaching the radiation sensor, the imaging unit defining an image plane . . . , the imaging unit further having at least one pin,

wherein the imaging unit is aligned with the printed circuit board such that the at least one pin of the imaging unit is inserted in the at least one hole of the printed circuit board to align the imaging unit to locate the image plane on the radiation sensor, and

wherein the carrier, the printed circuit board, and the imaging unit are coupled together such that the printed circuit board is positioned between the carrier and the imaging unit

as is recited in amended claim 38. First, neither *Sekendur* nor *Fermgård* teaches or suggests a carrier having a receiver for receiving a writing implement, where a printed circuit board is mounted on the carrier and wherein the carrier, the printed circuit board, and the imaging unit are coupled together such that the printed circuit board is positioned between the carrier and the imaging unit. Instead, in *Sekendur*, optical element 19 and CCD 13 are interfaced to a microcomputer via an interface means 14, writing element 9 is not received in a carrier to which a printed circuit board is mounted, and there is no printed circuit board that is positioned between a carrier and an imaging unit. See, e.g., *Sekendur* Fig. 7, and col. 6, ll. 37-40. *Fermgård* discloses a guiding element 9 for a writing means 7 and an image detector unit 15 are arranged in a common mounting part 5. *Fermgård* at Abstract, Fig. 2. In *Fermgård*, imaging detector unit 15 is connected to a printed circuit board 28 by means of a flexible electric coupling 19. *Fermgård*, Abstract, Fig. 2, and p. 9, ll. 15-17. Thus, *Fermgård* does not teach or suggest a combination including a carrier having a receiver for receiving a writing implement and a printed circuit board mounted on the carrier, where the carrier, printed circuit board, and an imaging unit are coupled together such that the printed circuit board is positioned between the carrier and the imaging unit.

Next, neither reference teaches or suggest “a two-dimensional radiation sensor surface-mounted on the printed circuit board, the sensor positioned on the printed circuit board with respect to . . . at least one hole [in the printed circuit board]” as is recited in amended claim 38. Instead, in *Sekendur*, the CCD or detector is not “surface-mounted on a printed circuit board,” much less positioned on the printed circuit board with respect to at least one hole in the printed circuit board. Instead, as is apparent in Fig. 7 of *Sekendur*, an interface means 14 interfaces a CCD/detector and other components to a microcomputer, but the CCD is not surface-mounted on the microcomputer or a printed circuit board nor is it positioned with respect to holes in the microcomputer or a printed circuit board. See also *Sekendur*, col. 5, ll. 6-9; and col. 6, ll. 37-40. Similarly, in *Fermgård*, an imaging detector unit 15 is connected to a printed circuit board 28 by means of a flexible electric coupling 19, but the imaging detector unit 15 is not surface-mounted on the printed circuit board 28, much less positioned on the printed circuit board 28 with respect to at least one hole. *Fermgård*, Abstract, Fig. 2, and p. 9, ll. 15-17.

Further, as is apparent from Figs. 6-7 of *Sekendur* and Fig. 2 of *Fermgård*, neither *Sekendur* nor *Fermgård* teaches or suggests an imaging unit having at least one pin, a printed circuit board having at least one hole, and that the imaging unit is aligned with the printed circuit board such that the at least one pin of the imaging unit is inserted in the at least one hole of the printed circuit board to align the imaging unit to locate the image plane on the radiation sensor, as is recited in amended claim 38.

In view of the above, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior

art and the claimed invention. Consequently, the Office Action has failed to clearly articulate a reason why independent claim 38 would have been obvious to one of ordinary skill in view of the prior art. Therefore, a *prima facie* case of obviousness has not been established for at least the reasons discussed above and the Examiner should withdraw the rejection of amended independent claim 38 under 35 U.S.C. § 103(a), as well as its dependent claims 42-48, 53, and 54.

Moreover, *Yang* does not teach the combination as recited in claim 38. As shown in Fig. 4 of *Yang*, image sensor 14 is adjacent to control means 15 in *Yang*. The control means in *Yang*, however, is not positioned between a carrier having a receiver for receiving a writing implement and an imaging unit, such as image sensor 14. In addition, *Yang* does not teach or suggest “a two-dimensional radiation sensor surface-mounted on the printed circuit board, the sensor positioned on the printed circuit board with respect to . . . at least one hole [in the printed circuit board],” as is recited in amended claim 38. *Yang* also does not teach an imaging unit having at least one pin, a printed circuit board having at least one hole, and that “the imaging unit is aligned with the printed circuit board such that the at least one pin of the imaging unit is inserted in the at least one hole of the printed circuit board to align the imaging unit to locate the image plane on the radiation sensor,” as is recited in amended claim 38. Thus, claim 38 is not obvious in view of *Yang*, considered alone or in combination with *Sekendur* and/or *Fermgård*.

New claims

New claims 55-79 are also not obvious over *Sekendur*, *Fermgård*, and *Yang*, considered independently or together. New dependent claim 55 depends from claim 38 and is allowable at least for the reasons discussed above in connection with claim 38.

Next, regarding new independent claim 56, as discussed above in connection with claim 38, none of the cited references, considered independently or together, teaches or suggests a carrier having a receiver for receiving a writing implement, where a printed circuit board is mounted on the carrier and wherein the carrier, the printed circuit board, and the imaging unit are coupled together such that the printed circuit board is positioned between the carrier and the imaging unit. This unique combination of claim 56 is absent from the cited references, and as such, allowance of new claim 56, as well as new dependent claims 57-67, is respectfully requested.

Regarding new independent claim 68, as discussed above in connection with claim 38, the cited references do not teach or suggest “a two-dimensional radiation sensor surface-mounted on the printed circuit board, the sensor positioned on the printed circuit board with respect to . . . at least one hole [in the printed circuit board]” as is recited in amended claim 38 or an imaging unit having at least one pin, a printed circuit board having at least one hole, and that the imaging unit is aligned with the printed circuit board such that the at least one pin of the imaging unit is inserted in the at least one hole of the printed circuit board to align the imaging unit to locate the image plane on the radiation sensor, as is recited in amended claim 38. This unique combination of claim 68 is absent from the cited references, and as such, allowance of new claim 68, as well as new dependent claims 69-79, is respectfully requested.

Conclusion


In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims. Through this Amendment, Applicants have attempted to place this application in condition for allowance. If the Examiner foresees any impediments to allowance, the undersigned would welcome a phone call from the Examiner to resolve any outstanding issues.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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